

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (Currently Amended) A method of structuring interactive content for hardware devices, comprising the steps of:

determining layout and rendering parameters based on device information;

parsing requested content including a plurality of pages into a document having a plurality of discrete objects, each discrete object having a format based on at least said layout and rendering parameters;

generating a document table for said document;

inputting said document into a content stream, wherein said content stream includes the plurality of objects, wherein said document table includes object pointers corresponding to respective objects of the plurality of objects, wherein each object pointer includes an attribute pointer that points to a respective object in said content stream;

~~inputting said document table into said content stream~~

~~modifying an object of said content stream, comprising the step of:~~

~~accessing an object pointer in said document table within said content stream, wherein said object pointer comprises a vtable pointer for accessing instance methods and an attribute pointer for accessing said object within said content stream; and~~

transmitting said content stream to a hardware device.

2. (Previously Presented) The method of claim 1, wherein said generating step comprises generating the document table on an object by object basis for said document and wherein said object-by-object basis corresponds to distinguishable pieces of said request content.

3. (Previously Presented) The method of claim 1, whereby said document table provides points of reference to the objects of said document.

4. (Previously Presented) The method of claim 1, further comprising the steps of:
compressing said document and
encrypting said document.

5-6. (Canceled)

7. (Previously Presented) The method of claim 1, further comprising the step of:
storing said content stream on a hardware device.

8. (Canceled)

9. (Currently Amended) The method of claim 1, further comprising ~~wherein said~~
modifying an object of said content stream ~~step further comprises~~ comprising the steps
of:

accessing an object pointer corresponding to the said object, wherein said
object pointer further comprises a vtable pointer for accessing instance methods
associated with said object;

copying said object to a new memory space for modification;

altering said object with ~~said~~ respective instance methods accessed using
said vtable pointer; and

updating ~~[[the]]~~ an attribute pointer of said object pointer to point to the
memory space of said object that has been altered.

10. (Currently Amended) A computer system of structuring interactive content
for hardware devices, comprising:

a module to determine layout and rendering parameters based on device
information;

a module to parse requested content including a plurality of pages into a document having a plurality of ~~discrete~~ objects, each ~~discrete~~ object having a format based on at least said layout and rendering parameters;

a module to generate a document table for said document

a module to input said document into a content stream, wherein said content stream includes the plurality of objects, wherein said document table includes object pointers corresponding to respective objects of the plurality of objects, wherein each object pointer includes an attribute pointer that points to a respective object in said content stream;

~~a module to input said document table into said content stream~~

~~a module to modify an object of said content stream, comprising the step of:~~

~~accessing an object pointer in said document table within said content stream, wherein said object pointer comprises a vtable pointer for accessing instance methods and an attribute pointer for accessing said object within said content stream; and~~

a module to transmit said content stream to a hardware device.

11. (Previously Presented) The system of claim 10, wherein said generating module generates the document table on an object by object basis for said document and wherein said object-by-object basis corresponds to distinguishable pieces of said request content.

12. (Previously Presented) The system of claim 10, whereby said document table provides points of reference to the objects of said document.

13. (Previously Presented) The system of claim 10, further comprising:

a module to compress said document; and

a module to encrypt said document.

14-15. (Canceled)

16. (Previously Presented) The system of claim 10, further comprising:
a module to store content stream on a hardware device.

17. (Canceled)

18. (Currently Amended) The system of claim 10, further comprising a wherein
said modifying module further comprises comprising:

a module to access an object pointer corresponding to the said object,
wherein said object pointer further comprises a vtable pointer for accessing instance
methods associated with the object;

a module to copy said object to a new memory space for modification;

a module to alter said object with ~~said~~ respective instance methods
accessed using vtable; and

a module to update [[the]] an attribute pointer of said object pointer to
point to the memory space of said object that has been altered.

19. (Currently Amended) A tangible computer program product comprising a
computer usable medium having computer readable program code means embodied in
said medium for causing a computer to structure interactive content for hardware
devices, said computer readable program code means comprising:

a first computer readable program code means for causing a computer to
determine layout and rendering parameters based on device information;

a second computer readable program code means for causing a computer to parse
requested content including a plurality of pages into a document having a plurality of
~~discrete~~ objects, each ~~discrete~~ object having a format based on at least said layout and
rendering parameters;

a third computer readable program code means for causing a computer to
generate a document table;

a fourth computer readable program code means for causing a computer to input
said document into a content stream, wherein said content stream includes the plurality

of objects, wherein said document table includes object pointers corresponding to respective objects of the plurality of objects, wherein each object pointer includes an attribute pointer that points to a respective object in said content stream ~~wherein objects of the plurality of objects are ordered according to a defined order within said content stream;~~

~~a fifth computer readable program code means for causing a computer to input said document table into said content stream~~

~~a sixth computer readable program code means for causing a computer to modify an object of said content stream, comprising:~~

~~a seventh computer readable program code means for causing a computer to access an object pointer in said document table within said content stream, wherein said object pointer comprises a vtable pointer for accessing instance methods and an attribute pointer for accessing said object within said content stream; and~~

a ~~eighth~~ fifth computer readable program code means for causing a computer to transmit said content stream to a mobile device.

20. (Currently Amended) The computer program product of claim 19, wherein said third computer readable program code means comprises a ~~ninth~~ sixth computer readable program means for generating the document table on an object by object basis for said document and wherein said object-by-object basis corresponds to distinguishable pieces of said request content.

21. (Previously Presented) The computer program product of claim 19, whereby said document table provides points of reference to the objects of said document.

22. (Currently Amended) The computer program product of claim 19, said computer program product further comprising:

a ~~ninth~~ sixth computer readable program code means for causing a computer to ~~compressing~~ compress said document; and

a ~~tenth~~ seventh computer readable program code means for causing a computer to ~~encrypting~~ encrypt said document.

23-24. (Canceled)

25. (Currently Amended) The computer program product of claim 19, said computer program product further comprising:

a ~~ninth~~ sixth computer readable program code means for causing a computer to store said content stream on a hardware device.

26. (Canceled)

27. (Currently Amended) The computer program product of claim 19, further comprising sixth computer readable program code means for causing a computer to modify an object of said content stream, wherein said ~~seventh~~ sixth computer readable program code means comprises:

a seventh computer readable program means for causing a computer to access an object pointer corresponding to the said object, wherein said object pointer further comprises a vtable pointer for accessing instance methods associated with said object;

a ~~ninth~~ an eighth computer readable program code means for causing a computer to copy said object to a new memory space for modification;

~~an tenth~~ a ninth computer readable program code means for causing a computer to alter said object with said respective instance methods accessed using said vtable pointer; and

a ~~eleventh~~ tenth computer readable program code means for causing a computer to update ~~the second~~ an attribute pointer of said object pointer to point to the memory space of said object that has been altered.

28. (Currently Amended) A method of structuring interactive content for mobile devices, comprising:

determining layout and rendering parameters based on mobile device information;

parsing requested content into a document having a plurality of discrete objects, each discrete object having a format based on at least said layout and rendering parameters;

generating a document table based on an object-by-object basis for said document;

compressing said document according to said object-by-object basis;

encrypting said document according to said object-by-object basis;

inputting said document into a content stream according to said object-by-object basis;

inputting said document table into said content stream according to said object-by-object basis, wherein said document and said document table form said content stream according to said mobile device information, wherein said document table includes object pointers corresponding to respective objects of the plurality of objects and wherein each object pointer includes an attribute pointer that points to a respective object in said content stream; and

modifying an object of said content stream, wherein said object corresponds to distinguishable pieces of said request content, wherein said modifying comprises:

accessing an object pointer in said document table within said content stream, wherein said object pointer contains a vtable pointer for accessing instance methods and an attribute pointer for accessing said object within said content stream,

copying said object to a new memory space for modification,

altering said object with said instance methods, and

updating said an attribute pointer of said object pointer to the memory space of said object that has been altered.

29. (Currently Amended) A computer system of structuring interactive content for mobile devices, comprising:

- a module to determine layout and rendering parameters based on mobile device information;

- a module to parse requested content into a document having a plurality of discrete objects, each discrete object having a format based on at least said layout and rendering parameters;

- a module to generate a document table based on an object-by-object basis for said document;

- a module to compress said document according to said object-by-object basis;

- a module to encrypt said document according to said object-by-object basis;

- a module to input said document into a content stream according to said object-by-object basis, wherein said document table includes object pointers corresponding to respective objects of the plurality of objects and wherein each object pointer includes an attribute pointer that points to a respective object in said content stream;

- a module to input said document table into said content stream according to said object-by-object basis, wherein said document and said document table form said content stream according to said mobile device information; and

- a module to modify an object of said content stream, wherein said object corresponds to distinguishable pieces of said request content, wherein means for modifying comprises:

- a module to access an object pointer in said document table within said content stream, wherein said object pointer contains a vtable pointer for accessing instance methods and an attribute pointer for accessing said object within said content stream,

- a module to copy said object to a new memory space for modification,

- a module to alter said object with said instance methods, and

- a module to update ~~said~~ an attribute pointer of said object pointer to the memory space of said object that has been altered.

30. (Currently Amended) A tangible computer program product comprising a computer usable medium having computer readable program code means embodied in said medium for causing execute on a computer to structure interactive content for mobile devices, said computer readable program code means comprising:

a first computer readable program code means for causing a computer to determine layout and rendering parameters based on mobile device information;

a second computer readable program code means for causing a computer to parse requested content into a document having a plurality of discrete objects, each discrete object having a format based on at least said layout and rendering parameters;

a third computer readable program code means for causing a computer to generate a document table based on an object-by-object basis for said document;

a fourth computer readable program code means for causing a computer to compress said document according to said object-by-object basis;

a fifth computer readable program code means for causing a computer to encrypt said document according to said object-by-object basis;

a sixth computer readable program code means for causing a computer to input said document into a content stream according to said object-by-object basis, wherein said document table includes object pointers corresponding to respective objects of the plurality of objects and wherein each object pointer includes an attribute pointer that points to a respective object in said content stream;

an seventh computer readable program code means for causing a computer to input said document table into said content stream according to said object-by-object basis, wherein said document and said document table form said content stream according to said mobile device information; and

a eighth computer readable program code means for causing a computer to modify an object of said content stream, wherein said object corresponds to distinguishable pieces of said request content, wherein said ~~ninth~~ eighth computer readable program code means comprises:

a ninth computer readable program code means for causing a computer to access an object pointer in said document table within said content stream, wherein said

object pointer contains a vtable pointer for accessing instance methods and an attribute pointer for access said object within said content stream,

a tenth computer readable program code means for causing a computer to copy said object to a new memory space for modification,

a eleventh computer readable program code means for causing a computer to alter said object with said instance methods, and

a twelfth computer readable program code means for causing a computer to update said an attribute pointer of said object pointer to the memory space of said object that has been altered.

31 - 33. (Canceled)

34. (New) The method of claim 1, wherein each object pointer of the document table further comprises a vtable pointer that points to an entry in a vtable, wherein each entry in the vtable comprises at least one function pointer that points to an instance method associated with the corresponding object, further comprising:

modifying an object, comprising:

accessing a vtable pointer associated with the object through a respective object pointer; and

using the vtable pointer to access an instance method associated with the object.

35. (New) The method of claim 34, wherein modifying further comprises:
copying the object into writeable memory.

36. (New) The method of claim 35, wherein the modifying step is executed after the inputting said document step.

37. (New) The method of claim 35, wherein the object is in a compressed form in the content stream, wherein the modifying further comprises:

decompressing the object before the copying step.

38. (New) The method of claim 1, further comprising:
receiving a synchronization token from the hardware device;
wherein at least a portion of data included in the content stream is
determined based on the synchronization token.

39. (New) The method of claim 38, wherein the synchronization token is a
data marker representative of data stored on the hardware device.

40. (New) The method of claim 38, further comprising:
determining whether a previous transmission to the hardware device was
successful based on the synchronization token.